Chapter 15

The Republic of Science and its Citizens: What role may humanities play within the Popperian framework?

J.A. Colen, Scott Nelson

Abstract

This essay aims at underlining Ian Jarvie's specific contribution to the study of some of Karl Popper's ideas in *The Poverty of Historicism.* It will also show how he goes further than Popper. Jarvie acknowledges the difficulty of writing about Popper's view of the differences between the natural and the social sciences, because Popper never addresses the critique of anti-naturalistic doctrines. He offers instead a critique of methodological essentialism and an apology of a certain nominalism. Popper shares these two ideas with Friedrich A. Hayek; however, Popper minimizes Hayek's *subjectivism* of the social sciences. Looking through Hayek's subjectivism, this chapter argues that the difference in method is greater than it seems, and that something akin to a Republic of Letters should be built alongside the *Republic of Science,* without ignoring the inherent faults in these republics that Jarvie underlines.

15.1 Introduction

Jarvie is a versatile and prolific sociologist whose works are both provocative and sharp. He has written an incredible number of important papers and books in various fields. Since no one can follow him in all these fields, one might be driven to despair. This chapter cannot therefore but aim at a very limited goal, merely underlining his specific contribution to the study of some of Popper's ideas in the *Poverty of Historicism* (1957) and showing how he goes further than Popper. We will thus seek to address a concrete issue: the unity of the method of the natural and social sciences. As Jarvie acknowledges, "the difficulty of writing about Popper's view of the differences between the natural and the social sciences. . . has partly to do with the structure of Popper's main work on them, *The Poverty of Historicism*." (1986, p. 71)

Looking through Hayek's subjectivism, we will claim that the difference in method is greater than it seems and that something akin to a Republic of Letters,

taking its cue from the historical sciences and humanities, should be built alongside the "Republic of Science," without ignoring the inherent faults in these two republics imposed haphazardly on society at large that Jarvie underlines in a recent book.

15.2 The arguments in favor of anti-naturalism in *The Poverty of Historicism*

Jarvie emphasizes that when *The Poverty of Historicism* came out in book form during the Fall of 1957, "it caused ripples" and since then "it has become an anticlassic: read but not praised." (Ibid., p. 70) The classics are, as Mark Twain notes in *South of the Equator*, the books everyone talks about, but no one really reads. Although the book parallels *Logik*, it is awkward in the sense that the "book begins not with a problem but with a doctrine: historicism, that is, that there are historical laws of social development. The book is a relentless critique of all versions of historicism. Popper suggests that this doctrine is widely diffused in the intellectual atmosphere of our time-acknowledged and, more often than not, unacknowledged—and that it underpins totalitarianism. His critique is to the effect that it is a philosophy of the social replete with error, advocating a method of tackling social problems that will make things worse, not better." (Ibid., p. 71)

In the same text quoted above, Jarvie's purpose is to "restructure *The Poverty of Historicism* on the same lines as *Logik der Forschung*," thereby suggesting that the main problems to be addressed in *The Poverty of Historicism* are not Popper's criticisms of historicism as such, but rather the answers he outlines in response to the following questions: "what are the methods of the social sciences? How, if at all, do the methods of the social sciences differ from the methods of the natural sciences?". (Ibid., p. 73) In accordance with Popper's habit of giving his intellectual opponents the best arguments possible (worthy of attack), *The Poverty of Historicism* begins by enumerating arguments in favor of anti-naturalism. These "negative" doctrines affirm that there are profound differences between sociology and physics relating to the possibility of generalization and the use of the experimental method. To these, some add the complexity of social phenomena, difficulties of accurate forecasting, and the importance of essences. (Popper 1957, pp. 5-6) Other arguments emerge throughout the Popperian text, which developed over a dozen years (Brudny 2002, p. 105, and Hacohen 2002, p. 352). Popper does not deny that there are "clear" differences, both between the different natural sciences and within the human sciences (e.g., linguistics and economics), but he argues that "the methods in the two fields are fundamentally

the same" (Popper 1957, p. 131): the deductive causal method and experience by means of prediction. Even with certain limitations this method can be applied to the historical sciences. (Ibid., p. 143)

Among the many arguments that Popper would term anti-naturalist or negative, we would outline these in particular: (a) There are no social laws of universal validity. The possibility of generalization or induction in physics presupposes the uniformity of nature and is inapplicable to the social sciences. In his words: "A method which ignores this limitation" presupposing sempiternal regularities produces a "false and dangerously misleading sociological theory" (Ibid., pp. 6-7). This theory conceals the "intention" of "fostering of a general feeling of inevitability", in particular the futility of the intervention of the law vis-à-vis the 'inexorable laws' of economics" (Ibid., p. 7), when social uniformities are created by man and it is human strength that alters them.

(b) one cannot use the experimental method in sociology. Isolation is not possible in the human sciences, without losing what is more important, and social experiences "can never be repeated under the same precise conditions" Isolation in physics is possible in experiments under the assumption that "similar things will happen" (Ibid., p. 8). He continues: "The sum of the conditions–internal and external–under which we repeat a certain experience" (Ibid., pp. 23-24), may make us "unable to formulate *general laws* which would serve as a description" (Ibid., p. 11).

(c) the complexity of social phenomena prevents one from discovering its constants. We feel that there is something human behind the variations, but the conclusions are more negative than positive. In his words: "Even if there were immutable sociological uniformities, like the uniformities in the field of physics, we might very well be unable to find them" (Ibid., p. 12).

(d) An exact prediction is contradictory, and the interference of the observer's values prevents objectivity in the human sciences. First, because information influences the situations. This fact is labeled by Popper with humor, considering the pseudo-scientific Freudian complex the "Oedipus effect": the "interconnection between predictions and the predicted events" means that "an exact and detailed calendar of social events is self-contradictory" (Ibid., pp. 13-14). Secondly, because the subject and object belong to the same world, an observer is, even if involuntarily,

influenced by his preferences, and there are as many points of view as there are interests (Ibid., p. 16).

(e) there are no sociological formulas articulated in quantitative terms. It is true that the social sciences successfully use quantitative methods, but not in the same way that physics uses quantitative terms and formulas; nothing in the human realm "can be compared to the mathematically formulated causal laws of physics" (Ibid., Ch. 9, p. 25).

(f) in the social sciences, the terms have meanings and correspond to "essences."

Finally, (g) another reason that makes the procedures of the social sciences so different is that they are concerned with the "essential identity of the institution" (Ibid., Ch. 10, pp. 31-32), i.e., in social phenomena there can be no mere nominalist description. Nominalism here means describing "how things behave"; words are "merely *useful instruments of description*" (Ibid., p. 29). The social sciences do not use labels, but are interested in the intrinsic, intelligible properties of human life (state, nation, class), because the actors of history themselves ascribe or discover "meaning."

Popper has a large arsenal of arguments *against* the possibility of extending the methods of the natural sciences to history and the human sciences (see Colen, 2010). The list is even more extensive than the one presented in Hayek's brilliant *The Counter-revolution of science* (Hayek, 1964). Unlike Hayek, however, Popper presents these arguments in order to better *refute* them and does not oppose the transposition of the (basic) methods of physics into sociology, nor does he fear that such practice is at the root of the manifold evils afflicting social theory. The presentation of the antinaturalistic theses (or fallacies) is at first glance deliberately sympathetic. Moreover, Popper himself constructs the arguments in a seemingly logical way, and at various times seems to accept that there is some truth underlying these arguments. He acknowledges, for instance, that the thesis that there are immutable human laws is not always disinterested. While he argues that science is essentially disinterested, he agrees that many scientific advances do not come from "idle curiosity," (Ibid., p. 55) or from a "futile subtlety" (Ibid., p. 57), but from attempts to solve concrete questions, and he agrees to place himself in the practical

realm of historicistic “activism.” As he asserts, many of the social or public problems have “a practical urgency surpassing even that of cancer research.” (Ibid., p. 56)

15.3 Anti-naturalism refuted?

Popper postpones the critique of the anti-naturalistic doctrines to the third part of his book. The exceptions are a lengthy critique of methodological essentialism and the apology of a certain nominalism, the scope and meaning of which, nonetheless, he later clarifies. (Shearmur 1996, p. 124 and Popper 2006, Ch. 6-7). The reader may guess that a powerful refutation of the arguments will follow. This never happens, as Jarvie notes. Popper’s criticisms of the anti-naturalist arguments are surprisingly scarce. In the abridged version of the same text, published in *Conjectures and Refutations*, they do not even appear. (Popper, 1962, 449-462) The weight of his reasoning falls on one argument: holistic intuition, deemed specific to the social sciences by apologists of *Verstehen* (or understanding). According to proponents of “anti-naturalism,” methods in the physical sciences are not applicable because one cannot proceed atomistically in sociology: “The social group is *more* than the mere sum total of its members.” (Popper 1957, pp. 17-19) Groups have a character that goes beyond individuals, based on traditions, institutions, and the like. In physics, structures are mere “constellations”: the sum of the parts plus the geometric configuration of those parts. The natural sciences have a method based on causal explanation, induction, and quantification, because they are all combinatorial arrangements. (Ibid., Ch. 8, p. 20)

The social sciences, according to the apologists of *Verstehen*, have a specific method or access to the human world: they work through sympathetic imagination, grasping purposes, meanings, and qualitative aspects. The method of understanding is presented in three variants: first, the rational or teleological model: actions are in accordance with their ends, whether rational or irrational, and aim at achieving advantages, whether real or imagined; second, a situational variant: adding to understanding in accordance with a means-ends scheme the knowledge of the context or situation, and confers or modifies the “meanings” of decisions; and third, a variant that goes even further and claims that it is also necessary to know the “mind or spirit of an epoch” and to know historical trends. This last variant is the one that is properly “holistic.” (Ibid., p. 24; Gellner 1959 and 1963) Two anti-naturalist arguments are

independently treated: the limitation of theories to a time or social system, and the difficulties of experience.

(a) Periods and generalization: periods do not limit the validity of generalizations, but obviously Popper does not believe in the method of generalization through induction, neither in the social sciences nor in physics. However, at the root of this statement is a certain parochialism which "overrates the significance of the somewhat spectacular differences" and minimizes the possibilities of scientific inventiveness. (Popper 1957, Ch. 26, p. 98: "theories are prior to observations as well as to experiments," what is necessary is only that mistakes can refute theories. It is not in fact even necessary to discuss induction in the natural sciences to criticize the historicist assertion that generalization is circumscribed to concrete periods.) So also "there seems no reason why we should be unable to frame sociological theories which are important for all social periods." (Ibid., p 101; Newton did not need to change the world to formulate the law of inertia.) Popper also explains that he does not believe that more general social theories can be obtained inductively by the abstraction of regularities, habits, legal proceedings, etc., distinguishing between *principia media* and *axiomata media*. Only the postulate of unlimited validity makes it possible to revise theories. The argument is not as good as it seems, because many generalizations in the social sciences are accompanied by mental restrictions and do not explain or clarify their conditions.

(b) Difficulties of experience: the historicist holds that the experimental method cannot be applied, because "we cannot, in the social field, reproduce at will precisely similar experimental conditions" (Ibid., Ch. 25, p. 93). There are clearly differences between sociology and physics, but this assertion is a crass misunderstanding. A physicist also has great difficulty in seeing what type and degree of isolation are necessary in experience. Artificial isolation is not a problem specific to the human sciences; it exists in physics too: "What kind of artificial isolation, if any, is needed" is decided only on the basis of the results of experience (the Hesiod inference; Ibid., p. 100). People hold the mistaken belief that the generalities they observe around them are the universal laws of social life, but a trip abroad is sufficient to contradict this, whence they extract the inference that everything changes (Cf. Popper 1963, Ch. 23).

The difficulties in repeating experiments under equivalent conditions are surmountable, as in physics; everything "depends on the kind of experiment" (Ibid., p. 94), and is impossible to decide *a priori*. The problem itself is the information we get from experience: the sociologist is deceived with results different from the expectations "formed on the basis of piecemeal experiments," the historian has difficulty interpreting certain documents, or discovers incorrect interpretations by his predecessors, the anthropologist feels it difficult to "adjust our habits of thought" in the face of unusual realities (Ibid., p. 96). Even these refutations are nuanced. Although the variability of experimental conditions is pervasive, even in the physical world, it is not insurmountable. As long as we do not want to change everything at the same time—hence an incremental approach—the isolation of variables is always very difficult. Nevertheless, he recognizes that a physicist is in many cases better positioned than a social scientist, for "in practice, it is often very difficult for the social scientist to choose and to vary his experimental conditions at will" (Ibid., p. 97), and he is often restricted to thought experiences and historical analyses.

The criticism confirms in part the force of the arguments. More importantly, the argument which he later judges to be capable of conclusively refuting historicism—the modification of the conditions of modification, including those resulting from the novelty of science—seems to confirm that "laws" may vary with the ages. It seems reasonable to assume that the novelty of the periods, if not complete, can be substantial if the conditions for modification change. (Elsewhere Popper says that the effects of foresight on human behavior would be the distinguishing feature of the social sciences.) This form of presenting the theses that he wishes to refute is characteristic of Popper. In accordance with his own hermeneutical rule, he construes the best possible theory of historicism. (Jarvie 2001, p. 149; Popper 1963, Vol. I, pp. 215 and 246, n. 45) This is the best procedure for criticizing "erroneous theories," such as generalization, essentialism, intuition, inexact prediction and complexity, or difficulties in quantifying in social sciences.

Historicism exaggerates the differences between the methods of the natural sciences and the methods of the social sciences. The "burning interest in questions of origin" at the heart of historicism is, however, misplaced. (Jarvie 1986, p. 70) But, in this case, the construction of the best possible theory leaves force to some of the arguments *against* naturalism. His answers may therefore seem inconclusive. As

Popper himself points out, they are not a refutation of historicism. Yet they keep the door open to the use of scientific method in the social sciences.

15.4 Could the problem of the method of social sciences have been developed differently?

Jarvie addresses himself to Popper's methodological differentiation between natural and social sciences to tackle a problem: "whether in the years that have elapsed since 1943-1944, when *The Poverty of Historicism* was originally published, there have emerged new arguments to challenge what Popper said about the differences between the natural and the social sciences." (Ibid.) He examines three strands of objections: (1) "The Argument from Meaningfulness" (there are no data not impregnated with meaning in the social realm,), (2) the Argument from Interests (there is a stronger bias in the social sciences than in the natural sciences), and finally (3) The Argument from Reflexivity as it "has been admitted in the social description of the pursuit of truth, the social sciences are social too, so the social sciences are in the odd position of having to give an account of social processes and social causation that, if comprehensive, must include the processes and causation of the social sciences themselves." (Ibid., p. 85) Jarvie's short answer to his own question is no, there is nothing new under the sun that Popper had not considered.

However, according to the best Popperian tradition, one learns through mistakes, and hence the importance of criticism. So, we shall half-heartedly put forward a criticism ourselves: if the problem was formulated differently, as to whether in the years previous to1943-1944 any valid argument challenged what Popper said about the differences between the natural and the social sciences. Through Hayek's development of subjectivism in the social sciences, we will see how the problem could have been developed differently.

Jarvie dedicates a chapter of his *The Republic of Science* (Ch. 3: "The Methodology of Studying Social Institutions") to the early version of *The Poverty of Historicism* (which is chronologically Popper's first book on the social sciences), focusing on three topics: first, Popper's ideas on the emergence of institutions, including scientific ones; second, his ideas about individuals and their role in science; and finally, Popper's conception of rationality and the scope for objectivity and testability in the human sciences. According to Jarvie, two of the central ideas of the

Austrian School that Popper accepted are the theory of the social origin of institutions and methodological individualism (Hacohen 2001, shows how Popper's views on these topics can be traced to Carl Menger and the Austrian School). Popper shares these two ideas in common with Hayek; however, he minimizes a third idea that is central to Hayek: the *subjectivism* of the social sciences.

Scientism, according to Hayek, is the source of a triple error: objectivism, collectivism, and historicism. Like Popper, he sees historicism as the root of totalitarianism, and his hope is that the exposure of these errors will remove collectivism and totalitarianism from its intellectual foundation. Hayek focuses on three errors which seem to be the specific features of the method of the social sciences: subjectivism, methodological individualism, and the possibility of constructing a "non-historical" social theory. Despite sharp differences between them, Popper agrees with all but the first one.

(a) *Subjectivism and objectivism*: According to Hayek, the social sciences, in the strict sense, are interested only in conscious or reflective actions, where there is a choice between different courses of action. Although it is also possible to describe situations from the outside, doing so as reactions to stimuli would be to "confineourselves to less than we know." (Hayek, 1964, p. 26) We expect certain patterns of behavior from others, and take it for granted that others react in the same way, because they have learned to classify things in a similar way. Most objects of human or social action are not objective facts, nor can they be described in physical terms "irrespective of what people think about them" (Ibid, p. 27). A logical analysis of the concepts of social sciences always shows at least three terms as part of each concept: the person who acts; the desired effect; a "thing" in the vulgar sense. In practice, human behavior is expressed in terms of *purpose*s. Furthermore, not only the reference to a goal is necessary, but the concepts used in the social sciences contain *no reference* at all to physical substances, forms, or attributes—no comprehensive definition of a class of human creations is able to include them—such that the definition is made only "in terms of mental attitudes of men towards the things." (Ibid.). What is specific about the terminology of history and the social sciences is not abstraction—all concepts are abstractions—but the abstraction of all aspects or physical properties.

(b) *Methodological individualism and collectivism*: In opposition to August Comte, Hayek also observes that, unlike what often happens in physics, in the investigation of the human world the most familiar elements are individuals' attitudes. This is why the method of the social sciences is synthetic or "compositive": social scientists construct concepts and models from subjective phenomena. The collectivist or holistic error, by contrast, tries to treat wholes as objects with their own laws. Now these totalities (capitalism, working class, democracy, nation) are not realities like a stone. They are hypothetical constructs, provisional theories which exist only in the popular mind. Confusion often ends in conceptual realism which attributes its own reality to a pseudo collective spirit. Attempts to give an objective description of these collectives means in practice pretending to know less than is known. Moreover, sociological macroscopic observations do not capture interrelations, for even statistics always begin by eliding the links between phenomena to be able to quantify them. (Hayek, 1964)

(c) *Social theory and historicism*: The compositional method is therefore the specific theoretical mode of the human sciences: at the origin of the theories are immediately known subjective phenomena. This is because it is not possible to carry out controlled experiments in the human domain. Theories do not refer to particular constellations of facts, as observed in history, but to abstract phenomena. The historian constantly resorts to theories and concepts from different theoretical spheres, most of which are very simple, embedded in (sociological) concepts such as "battle," "market" or "city." (Ibid, examples in p. 72)

15.5 Is the *methodological* distinction between natural/social science more pronounced?

As we can see, Hayek makes a case for a more pronounced distinction between the methods of natural and social science, and therefore Hayek's argument from subjectivity should be taken more seriously. Despites the qualifications pointed out, Popper does not doubt the fallacy of the arguments that oppose the application of the scientific method to the human world. If we look at the present-day panorama of social sciences, it is clear that some branches do correspond to Popper's description of a non-historicist approach to human phenomena, say, microeconomics, formal linguistics, and public choice theory; there are general sociological laws or hypotheses. Sociological laws or hypotheses are similar to physical theories, and

Popper enumerates a few examples: full employment without inflation is not possible, the concentrated interests of producers prevail over those of consumers, all power raises occasions of abuse and Acton's law. (Popper 1957, pp. 62-3) We will find they are innumerable, if only we "we look for them among the more platitudinous rather than among the more abstract laws." (Ibid.) Many of them can be tested and refuted.

Could it be that Popper and Jarvie underestimate the differences in method between the natural and social sciences? Might Hayek not be right in stressing that the effort to give up *subjective opinions* and arrive at o*bjective facts* does not apply in the human sciences, because the purpose of these sciences is precisely "opinions" that guide human activity? At the same time, the "opinions" that are the subject of human study are not those of the researcher, but those of the agent, so that it can also be said that they are not subjective because "they are independent of the particular observer." Here we find again Max Weber's proposal about retrieving the subjective meaning of a social agent (cf. Weber 1965, see Colen 2017).

In spite of this, "beliefs or opinions held by particular people, beliefs which as such are our data, irrespective of whether they are true or false" are data of a different nature compared to natural facts, because not only do they not feature physical attributes, but also, to top it all, seeing that we cannot observe others' minds directly, we can only perceive what they are doing because we have "a mind similar to theirs." (Hayek, 1964, p. 28) This similarity of "the structure of the mind" does not for this reason stop being an empirical fact, which is confirmed both by the possibility of communication and by the results of research: if sensations do not correspond to physical properties—qualities disappear from the scientific world—they continue to be part of the human mind. How does Hayek justify using an ambiguous expression? The term "subjective" also stresses that, in spite of the essential structure of the mind being common, what makes communication, categories, and opinions possible "will yet be different and often conflicting in many respects" (Hayek, 1964, p. 29); otherwise, the distinction between objective and subjective could in practice be disregarded, because the knowledge, concrete and circumstantial, that guides human action rarely seems organized as if it were a consistent and coherent corpus. "It only exists in the dispersed, incomplete, and inconsistent form in which it appears in many individual minds." (Hayek, 1964, p. 30) This dispersion and imperfection is a basic fact for the social sciences.

To sum up, tools, sentences, drugs, cosmetics, food, and money are not objective facts, but must be defined on the basis of the way in which one thinks. There is no physical distinction between an exchange in the market and a magical ritual (gift and counter-gift). Only when the meaning of actions can be seen, is it possible to classify and explain them: "to subsume them under rules which connect similar situations with similar actions, are bound to fail." (Hayek, 1964, p. 31) The substantiation of this methodological detail in social studies has been especially useful in economics and perhaps in linguistics. Ricardo's law of rent serves Hayek as an example of a general statement which is joined to an empirical proposition that varies with circumstances. It has a genuine explanatory value provided that the circumstances that are its conditions of validity are verified.

Popper's approach might in fact open a path to some of these insights. His distinction between the theoretical and historical sciences (within the ambit of the social sciences) is predicated on the belief that the former aim at establishing general trends, while the latter are concerned with specific instances (Popper, 1957, Ch. 30). Beyond simple antiquarian interest, the utility of specific instances lies in the opportunities they offer us to challenge and falsify our general hypotheses. Indeed, oftentimes they attract our interest precisely because they deviate from our understanding of general behavior. It is in these deviations that we must have recourse either to other general forms of behavior that can account for the deviation or to the beliefs and intentions of the actors in that specific instance. If the good scientists constantly launch challenges against their own hypotheses, then they are compelled to seek out the abnormal cases which are comprehensible only through *Verstehen.* In this respect, Hayek's subjectivism does indeed distinguish the method of the social sciences from the method of natural sciences. A concern for *Verstehen* and the specificity of each moment in time is what we encounter in both history and literature.

15.6 The Republic of Science and the social world at large

In *The Republic of Science* (2001) Jarvie argues that, far from ignoring the social dimension of science, Popper, almost from the very beginning presents a strong sociological program and even suggests, implicitly, a kind of "proto-constitution of science." This may surprise many since the conventional interpretation of Popper's thought avers that he was, above all, a philosopher concerned with the methodology of science, with interests extending from physics to biology, and merely took a detour,

so to say, in *The Poverty of Historicism* and *The Open Society and Its Enemies*, the latter described as his contribution to the war effort (Popper, 2006). Contrary to this received wisdom, Jarvie convincingly argues that a (decisive) element of Popper's legacy is his showcasing, from 1934 onwards of the role that methodological conventions or social "rules of the game" play in science. In this way, Jarvie shows that Popper anticipates the social shift in the philosophy of science by decades: "thinking socially (rather than logically or psychologically) is central to Popper's philosophical enterprise beginning with *The Logic of Scientific Discovery*, continuing for his ten most creative years, and emerging sporadically after that. Popper's consistent ability to think socially also does much to account for his originality, since it is hard to do and its difficulty is attested by how often readers and critics of Popper do not grasp that this is what he is doing." (Jarvie, 2001, p. 21) For Jarvie, Popper had much to say about a scientist's (social) conduct. Although apparently only "logical" or epistemological, the core of *Logik der Forschung* implies an institutional setting. Moreover, Popper's concern with methods in the human sciences (explicitly excluding pseudo-sciences, such as Marxist sociology and psychoanalysis) precedes his turn to the natural sciences. Popper's approach to science is thus a mirror of his political philosophy: just as the function of the philosophy of science is to criticize the "rules of the game" of the natural sciences, so is the function of moral and political philosophy is to question conventions, customs, traditions, and institutions.

Jarvie expands Popper's proposals and makes it explicit that the rules of scientific procedure must be *socially* designed "in such a way that they do not protect any statement in science against falsification." (Jarvie, 2001) He lists a set of articles of the proto-constitution of science which, he acknowledges, were very abstract in his first book: Popper later corrected and supplemented them with a theory of institutions. What Jarvie calls a "Republic of Science," the regime which is established with a "proto-constitution" is later promulgated with an enriched theory of institutions. It is impossible to do justice here to the originality of this reading and it may be preferable to point the reader to Jarvie's work itself. Jarvie, however, doubts that the workings of the "community of science" can be extended to society as a whole. His doubts are well founded. The world of science is not that of common sense; but common sense is an experimental datum in the human realm. It provides enough of an image for humans to orient themselves in daily life, but is an imperfect tool that needs

improving. Science is engaged in revising the image of the world, and as a real fact it implies that all thinking beings possess a similar image of this world. Humans see the world by way of sensations and organized concepts in a "mental structure common to all" (Hayek, 1964, p. 23). Until science completes its work and explains intellectual processes, it is necessary to use the facts of the mind to explain human actions, because these are determined by the views and concepts he possesses, and through these mental facts man builds up another world of which the individual becomes a part (Hayek, 1964, p. 24).

Formal science is not the duplicate of events experienced, whether in the social sciences or the natural ones. It is sufficient to consider the difficulties we would face and the quantity of physical and astronomical laws or principles of thermodynamics we would need to scientifically describe an event as simple as "It was nightfall and I turned on the heating and the light on my desk." Science, physical or human, explains some aspects, cut to fit its laws, which it takes from events. There is certainly space for introducing progressively more complex models, but the joining of the experienced and the formal will only take place when chemistry substitutes cooks in foreseeing the flavor of a dish. This does not constitute a problem for the natural sciences which are always unfinished and are concerned with adapting the image of the world to the facts. But the same cannot be said about the sciences that try to explain *and guide* human actions, *here and now*. A different task, for which the same methods may not be suitable, is at stake. (example taken form Veyne, 1996).

15.7 Conclusion: can a "Republic of Letters" play a role?

To put it somewhat differently: why is there no room for building a "Republic of Letters" along with the Republic of Science? As Jarvie vividly explains, "Popper presents society as a learning machine, and the learning machine as a Socratic seminar writ large." (Jarvie, 2001,p. 6) He avers that "there are serious deficiencies in holding up the Socratic seminar as a model for life in society in general, and for scientific work in particular." (Ibid.) This last problem, which goes beyond Popper's legacy, in letter if not in spirit, is probably *the* single most important question faced by scientists and philosophers of science. "The republic of science Popper envisions is susceptible to corruptions of power just as is the broader body politic, and its citizens need the link of checks on power that Popper demanded on governments. More troubling: the

central Socratic and scientific value of truth conflicts at times with other values important for social life." (Ibid.)

This may also surprise many, since the successful part of the modern project, since Descartes, Bacon and Hobbes, has obviously been science, even if the benefits of the effects of its application in areas like genetic improvement, nuclear weapons, climate change, pollution, or even the financial system seem questionable. But science's prestige remains untouched and it is to science, not philosophy, that we look for all the answers to current problems. Philosophy does not seem to produce cumulative knowledge, but is instead always entangled in perennial issues. If there is a "truth" in matters of philosophy or metaphysics, it seems inevitable to conclude that the history of philosophy is a history of mistakes and failed attempts.

Bearing in mind Jarvie's contentions with the extension of the republic of science to society, we might conclude by adding another contention that would recommend a new republic of social sciences or a republic of letters as a true Socratic seminar. It is not just that a Socratic seminar writ large, characterized by an ethos of critical rationality, would run up against problems of a lack of checks on power or the conflict of values, such as that between the Socratic search for truth and those values essential to maintaining a political community. It is also that the Socratic search for truth is characterized by a concern for the ends that motivate human behavior. As such, a Socratic seminar would include rigorous efforts to falsify standing hypotheses, but it would also not shy away from Socrates' practice of asking questions of "essence": "what is F?", F being piety, courage, wisdom, justice, etc. Perhaps we cannot and should not ignore these questions that all societies have put to themselves through the ages, questions that may produce conclusions that are consequential and falsifiable, even if they may not belong within the Republic of Science.

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